

LABORATORY BULLETIN

DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES, HELENA, MONTANA

No. 64 Editor : David B. Lackman, Ph.D., Administrator, Laboratory Division
AUGUST 1, 1976

NATIONAL PROFICIENCY EXAMINATION FOR QUALIFICATION AS A CYTOTECHNOLOGIST

Deadline date for receipt of application for admission to the examination:
AUGUST 18, 1976

Request application forms from : David B. Lackman, Administrator
Laboratory Division
Department of Health and Environmental Sciences
W. F. Cogswell Building
Helena, Montana 59601

The examination will be given on November 5, 1976, in Room 142, W. F. Cogswell Building (Laboratory), S.E. Corner of Lockey and Roberts, Helena; starting at 9:00 A.M.

This is the third session for this examination. For eligibility requirements and other information, please refer to Laboratory Bulletin No. 55, December 12, 1974, page 4.

CONTINUING EDUCATION AND TRAINING PROVIDED IN THE LABORATORY

1. Continuing Education Series for Medical Laboratory Personnel, Course No. 1, Bench Training in Clinical Microbiology, One week course (Individual arrangements), conducted in the Microbiology Laboratory Bureau of the State Department of Health and Environmental Sciences in Helena. Fifteen students per year. Registration fee = \$20.00. This series is sponsored by the Montana Medical Education and Research Foundation, P. O. Box 2829, Great Falls, Montana 59403; and the Montana Society for Medical Technology. Further registrations are closed until January 15, 1977.

2. Training Conference on the Microbiological and Chemical Analysis of Wastewater. These are one-week sessions held annually in the Laboratory Division. Coordinators for the laboratory are Ella Mae Howard, Head of Environmental Microbiology and John Hawthorne, Head of Environmental Chemistry. These conferences are sponsored by the Water Quality Bureau and the Laboratory Division of the State Department of Health and Environmental Sciences under grants from the Manpower Training Office of the U.S. Environmental Protection Agency, Region VIII, Denver. Their purpose is to improve the quality of analytical techniques used in evaluating wastewater in Montana.

3. Whenever deficiencies show up in proficiency tests sent by us to clinical laboratories, we request personnel to come to the state laboratory for a day or so for individual consultation and training. This is especially important in syphilis serology.

4. Continuing Education for county attorneys, law-enforcement officials, judges and justices of the peace on the scientific aspects of "Implied Consent" (highway alcohol program). These are one-day sessions conducted, on request, by Michael Harrington, Head of Alcohol & Abused Substances in the Chemistry Laboratory Bureau. They are conducted in various locations in the state.

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5. Workshops in connection with certification of operators and operator-supervisors of Alco-Analyzers under the Highway Alcohol Program. Certification is current on over 200 officers.

6. Federal regulations developed under the Safe Drinking Water Act of 1974 require that states assuming primacy must provide training of operators and analysts in essential chemical and microbiological procedures.

VIROLOGY

Influenza : Our organized surveillance for influenza viruses in pediatric clinics starts on Monday, August 16. Special instructions to those submitting specimens are : "To make this a worthwhile study, please record the temperature in the space marked "Fever: " at the time the specimen is taken because influenza virus is usually recoverable only during the height of the febrile response. Pertinent epidemiological information, such as a record of similar illnesses in members of the family or the classroom, would also be of value. Other conditions which may simulate influenza during the summer season are those due to infection with adenoviruses or Mycoplasma pneumoniae. If either of these are suspected, paired serum specimens should be submitted."

Spokesman for state public health laboratories in the present influenza situation is Martin Goldfield, M.D., Assistant Commissioner, New Jersey State Department of Health; Director of the N.J. Public Health Laboratory, and currently President of the Association of State and Territorial Public Health Laboratory Directors. Dr. Goldfield is also the person primarily responsible for the initial discovery that a strain of influenza virus recovered from a fatal case at Fort Dix was similar to the original influenza virus recovered by Dr. Shope from swine in the early thirties (A/Swine). Here are some observations he made at a meeting of State Laboratory Directors in Atlanta on April 21.

1. This is the first time two radically different agents have appeared in an influenza epidemic. However, it wasn't the new strain which won out, but the A/Victoria strain was the one which continued on throughout the season.

A/N.J. swine-like strains were recovered in only 12 cases between January 5 and February 5; and there was no evidence of spread of this strain to the civilian population.

2. Proof that A/N.J. was the etiologic agent was obtained in only 12 cases; compared to thousands for A/Victoria. A serological survey turned up 500 recruits with antibodies to A/Swine - so they could have been infected with this virus. However, there is a likely possibility that some of these titers could be due to a cross reactivity with other influenza virus strains. This has been the explanation for some of the A/Swine antibodies found in hemagglutination-inhibition tests in our laboratory.

3. Although there have been isolated cases of infection of man by the A/Swine virus, the incident at Ft. Dix is the first example of person-to-person spread of this type since influenza virus was discovered.

4. Dr. Goldfield recommends unprecedented surveillance for influenza viruses; especially in the S. Hemisphere where winter is in full swing. Vaccine should be produced, tested, and stockpiled. We should stand poised, ready to carry out a comprehensive vaccination program at the first sign that A/N.J. influenza virus has epidemiological significance.

From a meeting of WHO experts : "They felt that despite its potentialities, the outbreak caused by the new strain could possibly have been an isolated event, rather than one necessarily leading to the kind of epidemics seen in 1957 and 1968."

"Vaccine-producing countries were encouraged to begin the manufacture of killed vaccines for use among high-risk groups, as well as other sectors of the population if warranted by the epidemiological situation."

Isolation of viruses (Continued from No. 63) : With the enactment of mandatory testing for immunity to German measles (Rubella hemagglutination-inhibition tests), and now with influenza surveillance, we must continue our re-evaluation of services in the virology laboratory. Neither of the added programs has resulted in additional personnel; so our virology laboratory is still a one-man operation. The rubella program alone accounts for 500 HAI tests each week. Today I learned that we aren't the only state laboratory faced with an emergency situation. One of our neighbors has had to drop tissue culture and return to operating a viral serology laboratory except for the isolation of Influenza virus in embryonated eggs.

Generally, attempts to isolate viruses in tissue culture in our laboratory have been unproductive and expensive. What we are considering is limiting our efforts to isolation of Influenza viruses in embryonated eggs; and Colorado tick fever virus in L-cell tissue culture during the tick season. We will continue to maintain sufficient tissue-culture capability to prepare some of our own serologic reagents and to isolate poliovirus should the epidemiologists encounter cases suspicious of paralytic poliomyelitis. For this we will continue to maintain HEP-2 and VERO cell cultures; with the L-cell strain of mouse fibroblasts during the tick season. Primary Monkey Kidney cell cultures will be discontinued. For viral isolation studies, I refer you to the MAYO MEDICAL LABORATORIES, 200 FIRST STREET SOUTHWEST, ROCHESTER, MINNESOTA 55901 (toll free WATS line 800 533-0367 which may be called for any test information, interpretation or consultation regarding a patient problem). Their virology service was mentioned in Bulletin No. 63, July 1, 1976.

Viral serology : With exceptions mentioned above, emphasis in our laboratory will now be placed on serological aids to the diagnosis of viral disease. Diseases included in this service are :

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| Colorado tick fever | German measles (Rubella) |
| Western equine encephalomyelitis | Mumps encephalitis |
| St. Louis encephalitis | Q fever |
| Herpes simplex (Herpes I) | Rocky Mt. spotted fever |
| Influenza, Group A | Mycoplasma pneumonia |
| Influenza, Group B | Acute Respiratory Disease |
| Measles (Rubeola) | (Adenoviruses) |

Serologic specimens from suspected cases of serum hepatitis (Hepatitis B) will continue to be referred to the Phoenix Field Station of the Center for Disease Control.

Special Note : Hendrika A. Van Drunen, M.D., is the new Chief of the Maternal and Child Health Bureau, Division of Health Services. Within the next few months, questions concerning the infant screening program for inborn metabolic disorders should be referred to her (telephone 449-2554).

"Often rules are not used as guidelines to help understand a situation; rather, they become directives to be followed, and this does not provide for adjustments to living situations." Paul Q. Peterson, M.D., former Assistant Surgeon General, U.S. Public Health Service

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